

WHAT IS CLAIMED IS:

5 1. A computer-readable recording medium having recorded therein a video game program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster,

10 said computer-readable recording medium having recorded therein a program for causing a computer to acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

15 calculate, according to said amount of parallel movement of said cluster acquired and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

20 2. A computer-readable recording medium for a video game according to claim 1, wherein said computer is further caused to

25 move, according to a movement of a joint in a virtual skeleton defining a framework of said three-dimensional object and including a plurality of

Cont
A1

5

joints, each of said plurality of vertexes being associated with at least one of said plurality of joints, said vertex corresponding thereto after the parallel movement of said vertexes.

10

3. A computer-readable recording medium for a video game according to claim 1, wherein said acquisition of the amount of parallel movement of said cluster includes:

15

determining whether an amount of parallel movement of each said cluster in a frame display period being processed is defined or not;

20

calculating, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is not defined, the amount of parallel movement of each said cluster in said frame display period being processed according to an amount of parallel movement of each said cluster in a frame display period having already been processed and an amount of parallel movement of each said cluster in a frame display period to be processed later; and

25

acquiring, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is defined, the defined amount of parallel movement of each said cluster in said frame display period being processed.

Cont
41 5
4. A three-dimensional object transforming method
in a video game for transforming a three-dimensional
object having a form at least a part of which is
determined by a plurality of vertexes associated with
a cluster, said method including:

acquiring, in each frame display period, an
amount of parallel movement of said cluster according
to animation data defining a movement of said
three-dimensional object; and

10 calculating, according to this acquired amount
of parallel movement of said cluster and a weight
predefined for each said vertex corresponding to said
cluster, an amount of parallel movement of each said
vertex and moving, according to this calculated amount
15 of parallel movement, said vertexes parallel to each
other in each said frame display period.

20 5. A three-dimensional object transforming method
in a video game according to claim 4, further including:

moving, according to a movement of a joint in
a virtual skeleton defining a framework of said
three-dimensional object and including a plurality of
joints, each of said plurality of vertexes being
25 associated with at least one of said plurality of joints,
said vertex corresponding thereto after the parallel

FP00-0103-00

movement of said vertexes.

6. A three-dimensional object transforming method in a video game according to claim 4, wherein said acquisition of the amount of parallel movement of said cluster includes:

determining whether an amount of parallel movement of each said cluster in a frame display period being processed is defined or not;

calculating, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is not defined, the amount of parallel movement of each said cluster in said frame display period being processed according to an amount of parallel movement of each said cluster in a frame display period having already been processed and an amount of parallel movement of each said cluster in a frame display period to be processed later; and

acquiring, if it is determined that the amount of parallel movement of each said cluster in said frame display period being processed is defined, the defined amount of parallel movement of each said cluster in said frame display period being processed.

7. A video game apparatus, which comprises a computer-readable storage medium storing a program for

5 a video game which transforms a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, and a computer which reads out and executes at least one of said programs from said computer-readable storage medium to perform the read out program,

Cont
A1 10 acquiring, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

15 calculating, according to said amount of parallel movement of said cluster acquired by said acquiring means and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

20 8. A video game apparatus for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, said apparatus having:

25 a computer; and

a computer-readable recording medium having

recorded therein a program to be executed by said computer;

5 said program causing said computer to execute:
 an acquiring process for acquiring, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

10 a moving process for calculating, according to said amount of parallel movement of said cluster acquired by said acquiring process and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

15 9. A video game program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster,

20 said computer program for causing a computer to acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

25 calculate, according to said amount of parallel movement of said cluster acquired and a weight

FP00-0103-00

predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

5

10. A computer program for transforming a three-dimensional object having a form at least a part of which is determined by a plurality of vertexes associated with a cluster, said computer program for causing a computer to

acquire, in each frame display period, an amount of parallel movement of said cluster according to animation data defining a movement of said three-dimensional object; and

15

calculate, according to this acquired amount of parallel movement of said cluster and a weight predefined for each said vertex corresponding to said cluster, an amount of parallel movement of each said vertex and moving, according to this calculated amount of parallel movement, said vertexes parallel to each other in each said frame display period.

20

Cont
A1